Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz For Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems	)	ET Docket No. 00-258
FCC Office of Engineering and Technology Mass Media Bureau, Wireless Telecommunications Bureau and International Bureau Spectrum Study of the 2500-2690 MHz Band: The Potential for Accommodating Third Generation Mobile Systems, Final Report	)	

COMMENTS OF SPRINT CORPORATION

Sprint Corporation hereby respectfully submits its comments on the Commission's Final Report on the 2500-2690 MHz band and the potential for accommodating third generation (3G) mobile systems in the above-captioned proceeding.[1] Sprint applauds the Commission for its report and its appreciation of the valuable MDS/ITFS services currently provided in the band as well as its conclusion that

[1] *See* FCC Office of Engineering and Technology, Mass Media Bureau, Wireless Telecommunications Bureau and International Bureau, *Spectrum Study of the 2500-2690 MHz Band: The Potential for Accommodating Third Generation Mobile Systems, Final Report* ("Final Report").

such services can neither share the band nor be reallocated to other spectrum without great disruption to and likely discontinuance of service.

The Final Report correctly concludes that the predominant use of the 2500-2690 MHz band is by the Fixed Service for Multipoint Distribution Service (MDS), Multichannel Multipoint Distribution Service (MMDS), and Instructional Television Fixed Service (ITFS) and that those services are making extensive and valuable use of the band.[2] It points out that ITFS licensees provide classroom instruction, distance learning, and videoconferencing capabilities and that MMDS providers, through their broadband fixed wireless services, provide a "significant opportunity for further competition with cable and digital subscriber (DSL) services in the provision of broadband services in urban areas and deliver broadband services to rural areas."[3] The Final Report correctly recognizes that the need for MMDS service as a broadband alternative will continue to grow as demand for affordable broadband services outpaces the ability of incumbent local exchange carriers and cable operators to provide those services.[4] Sprint agrees with the Commission's conclusion that ITFS, MDS and MMDS providers are making valuable use of the spectrum, and particularly that MMDS is serving as critical facilities-based alternative to cable and DSL broadband providers. Sprint appreciates the Commission's recognition that current uses of the 2150-2160/2 MHz and 2500-2690 MHz bands are in the public interest, are the result of significant effort and financial investment, and must be supported.

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[2] *Id.* at 13.
[3] *Id.*
[4] *Id. at 83, citing, e.g., The "Wall Street Journal,"* "[t]he cable industries rush to wire up America with high-speed Internet access is running into a serious problem: Too many heavy Internet users are crowding online at once, in some cases creating major bottlenecks and slowdowns." *And Cauley*, "Heavy Traffic is Overloading Cable Companies' New Internet Lines," *The Wall Street Journal,* at B1, B16 (Mar. 16, 2000*).*

The Final Report correctly confirms the conclusion reached in the Interim Report and supported by 3G proponents, trade associations, and the MDS/ITFS industry that substantial distance separation would be required in order to avoid harmful interference from 3G base and mobile stations into an ITFS/MDS licensee's hub and response sites.[5] It also confirms the Interim Report conclusion that very large separation distances would be needed in order to protect co-channel 3G systems from receiving interference from MDS/ITFS systems.[6] Specifically, it agrees with the MSI analysis showing that ITFS/MDS and 3G systems would need to be separated by distances exceeding the ratio horizon (161 km or 100 mi.) to ensure that ITFS/MDS transmitters will not cause harmful interference to 3G receivers. [7] Sprint supports the Commission's analysis and its determination that spectrum sharing between fixed terrestrial wireless services and proposed 3G services in the 2500-2690 MHz band is not feasible.

The Commission reviewed the analysis used the Interim Study regarding the feasibility of dividing the 2500-2690 MHz band into segments to meet the radiocommunications requirements for 3G systems and ITFS/MDS systems and the impact the segmentation options would have on ITFS/MDS systems if the spectrum used

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("Final Report"). The Study found that the Cellularlephone plant is "DSL capable" in only 44% of the residential market and has been upgraded for cable in only 15% of smaller and more rural systems.

[5] *See* Final Report at 31, citing Sprint Comments at 17-18, Verizon Comments at 19; *see also* AT&T Comments at 13, the Cellular Telecommunications and Internet Ass'n, Telecommunications Industry Ass'n and Person al Communications Industry Ass'n Comments at the Report of the Industry Group for Identification of Spectrum for 3G services at 11, Cisco Comments at 10, Motorola Comments at 13, CelPlan Comments at Considerations on Spectrum sharing/Segmentation between ITFS/MDS Systems at 1-2, Clearwire Comments at 2, 7-8, PetroCom Comments at 4, SpectrumLink Comments at 10, WorldCom Comments at 21-22, WCA Comments at 26-29, Nucentrix Comments at 6-8, K-12 Comments at 6-7, ITFS Spectrum Comments at 4, CTN Comments at 19-20, NIA Comments at 31-32, Oklahoma Comments at 6, Illinois Comments at 6, Texas Comments at 9-10, and IIT Comments at 7-8. *C.f.* Ericsson Comments at 16-17.

[6] *Id.*, citing study by George W. Harter, MSI, "Feasibility Study on Spectrum Sharing Between Fixed Terrestrial Wireless Services and Proposed Third Generation Mobile Services in the 2500-2690 MHz Bands" October 2000.

[7] *Id.*

by 3G systems were not replaced. The Final Report correctly concludes that "[a]ny segmentation option would need to take into account the flexible service configurations and offerings that MDS and ITFS licensees are now implementing" and that "the number of guard bands affects the impact that band segmentation has on spectrum available for ITFS/MDS operations."[8] Sprint appreciates the Commission's work in evaluating the band and its recognition of the complexities inherent in the existing licensing scheme and that "to fully understand the implications of any segmentation of the ITFS/MDS, one would need to analyze each geographic area individually."[9]

As Sprint and others have stated in earlier Comments, and as the Commission acknowledges in the Final Report, ITFS/MDS operators will need to have access to most of the of MDS, MMDS and ITFS spectrum in order to offer acceptable two-way service. [10] The Commission acknowledged that if the amount of spectrum is reduced, broadband fixed-wireless data rates would have to be scaled back and that "it is likely that any decrease in two-way service data rates could reduce or eliminate that services' ability to compete in the marketplace." [11] Sprint agrees.[12]

The Final Report concludes that to avoid interference to ITFS/MDS stations from 3G base stations, a 2 MHz guard band is reasonable and to avoid interference to 3G systems from ITFS/MDS main and response stations, a guard band of up to 4 MHz is needed. Sprint is working with the WCAI and others in the fixed wireless industry to analyze the need for guard bands between 3G and fixed wireless services and will

[8] *Id.* at 57.
[9] *Id., accord* Sprint Comments at 24.
[10] *Id.* at 46.
[11] *Id.* at 53.
[12] As Sprint stated in its Comments, if the amount of spectrum available is reduced, dramatic cost increases will occur in every market in which Sprint is providing, or plans to provide, service, making the service economically infeasible. *See* Sprint Comments at 23.

provide the Commission with the results of its analysis as soon as possible. As the Commission deals with the issue, Sprint encourages the Commission to consider the need to protect the noise floor of MDS response station hubs from 3G operations. Sprint will provide more in this regard as its analysis of these issues allows.

As stated, Sprint is very supportive of the Commission's Final Report and its well-considered analysis of competing interests and complex licensing of the 2500-2690 MHz band. Sprint agrees that MDS/ITFS services can neither share the band nor be reallocated to other spectrum without great disruption of service and prohibitive cost. Sprint is currently studying guard band requirements and will report to the Commission on its findings as soon as possible.

Respectfully submitted,

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April 16, 2001